

Columbia River Temperature TMDL Update Monthly Meeting 01/24/02

- \$ At the Technical Team Meeting we discussed an approach to the TMDL that resulted in 1 number per season for each target site. That number was the 90th percentile temperature reduction needed over the simulation period of 30 years.
- \$ We decided to investigate a few other approaches to:
 - \$ decouple the allocations from the model;
 - \$ make the allocations easier to understand;
 - \$ make the allocations in temperature rather than temperature reductions.
- \$ A different (cleaner) approach:
First some interesting facts:
 - 1. Site potential temperatures vary considerably (Figure 1). The maximum site potential temperatures at Grand Coulee over 30 years ranged from 18.2 - 22.1 almost 4E C.
 - 2. In the warming period, the impounded temperatures are very close to the site potential temperatures (Figure 2).
 - 3. The year with the consistently biggest difference between site potential and impounded temperatures in the Columbia River is 1979 (Figure 3). Also 1979 Site potential is very similar to the median site potential.
- \$ The different approach is to select 1 site potential year to represent the target temperatures and from which to derive the allocations.
- \$ The median year and 1979 are good candidates. Figure 4 is an example using 1979.
- \$ Figure 5 shows the median site potential year against all the years.
 - \$ Is it sufficiently protective?
 - Any line below median line is a concern.
 - \$ During the warming season, little concern - see 2 above
 - \$ During the hot and cooling seasons, if dams cooled to the median line there would be years in which that is not cool enough.
 - \$ Enter 1979: If we used 1979 as the target year and target reductions, dams would be planning to achieve the largest reductions and probably would get closer to the lines below the median line.
 - \$ Is it overly protective?
 - Any line over the median cannot be achieved.
 - \$ This could be accounted for by the monitoring plan
 - \$ Long term monitoring would have to achieve 50% compliance.
 - \$ We can add in a 95th percentile line that short term monitoring would have to achieve.